





APPLICATION NO.	FI	ILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/499,014	(02/04/2000	Dae-Young Kim	CX020003	9613
23125	7590	12/06/2001			
MOTORO			EXAMINER		
AUSTIN INTELLECTUAL PROPERTY LAW SECTION				TRAN, KHAI	
	7700 WEST PARMER LANE MD: TX32/PL02 AUSTIN, TX 78729			ART UNIT	PAPER NUMBER
				2631	
				DATE MAILED: 12/06/2001	

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No. Applicant(s)					
	09/499,014	KIM ET AL.				
Office Action Summary	Examiner	Art Unit				
	KHAI TRAN	2631				
The MAILING DATE of this communication Period for Reply	on appears on the cover she	et with the correspondence address				
A SHORTENED STATUTORY PERIOD FOR F THE MAILING DATE OF THIS COMMUNICAT - Extensions of time may be available under the provisions of 37 of after SIX (6) MONTHS from the mailing date of this communicat - If the period for reply specified above is less than thirty (30) days - If NO period for reply is specified above, the maximum statutory - Failure to reply within the set or extended period for reply will, by - Any reply received by the Office later than three months after the earned patent term adjustment. See 37 CFR 1.704(b). Status	ION. CFR 1.136(a). In no event, however, n ion. s, a reply within the statutory minimum period will apply and will expire SIX (6 y statute, cause the application to beco	nay a reply be timely filed of thirty (30) days will be considered timely. MONTHS from the mailing date of this communication. me ABANDONED (35 U.S.C. & 133)				
1) Responsive to communication(s) filed o	n <u>05 October 2001</u> .					
2a)⊠ This action is FINAL. 2b)□	This action is non-final.					
3) Since this application is in condition for closed in accordance with the practice u	allowance except for forma inder <i>Ex parte Quayle</i> , 193	matters, prosecution as to the merits is 5 C.D. 11, 453 O.G. 213.				
Disposition of Claims						
4) Claim(s) 1-11 is/are pending in the appli	cation.					
4a) Of the above claim(s) is/are wi	thdrawn from consideratior					
5) Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1-11</u> is/are rejected.						
7) Claim(s) is/are objected to.						
8) Claim(s) are subject to restriction	and/or election requiremen	•				
Application Papers						
9) The specification is objected to by the Exa	aminer.					
10) The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner.						
Applicant may not request that any objection		• • • • • • • • • • • • • • • • • • • •				
11) The proposed drawing correction filed on is: a) ☐ approved b) ☐ disapproved by the Examiner.						
If approved, corrected drawings are required in reply to this Office action.						
12) The oath or declaration is objected to by the	ne Examiner.					
Priority under 35 U.S.C. §§ 119 and 120						
13) Acknowledgment is made of a claim for fo	oreign priority under 35 U.S	.C. § 119(a)-(d) or (f).				
a) ☐ All b) ☐ Some * c) ☐ None of:						
1. ☐ Certified copies of the priority docu						
2. Certified copies of the priority documents have been received in Application No						
3.☐ Copies of the certified copies of the application from the Internation * See the attached detailed Office action for	al Bureau (PCT Rule 17.2)	a)).				
14)☐ Acknowledgment is made of a claim for do						
a) ☐ The translation of the foreign languag 15)☐ Acknowledgment is made of a claim for do	e provisional application ha	s been received.				
Attachment(s)						
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-94 3) Information Disclosure Statement(s) (PTO-1449) Paper N	8) 5) 🔲 Notic	iew Summary (PTO-413) Paper No(s) e of Informal Patent Application (PTO-152)				

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DETAILED ACTION

1. The amendment A filed on 10/5/01 has been entered. Claims 1-11 are pending in this Office action.

Claim Rejections - 35 USC § 103

2. Claims 1-11 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Olafsson (U.S. Pat. 6,163,570).

Regarding claim 1, Olafsson discloses a PCM modem system including an analog modem coupled a digital modem (see Figure 1), a method for controlling the transmit power of the analog modem, comprising the steps of: detecting the transmit power level of the analog modem (col.2, lines 1-55). Olafsson does not explicitly disclose a step of adjusting the transmit power level of the analog modem in accordance with the difference between the detected transmit power level and a desired transmit power level. However, Olafsson discloses that after the appropriate signal point constellations are selected, the total average transmit power level may be computed by the analog modem to ensure that the transmit power of the constellations set does not exceed the maximum transmit power limit by comparing a computed transmit power with a transmit power limit to determine whether the computer transmit

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power is less than or equal to the transmit power limit (col. 2, lines 1-28, and col.6, lines 47-54). Therefore, in order to verify the transmit power level, one of ordinary skill in the art would compare the transmit power level with the desired power level in order to adjust the transmit power level sent from one modem to another modem device (see col.2, lines 61-63, col.3, lines 6-30, and a comparator 224) in order to limit the transmit power levels from the one modem to another modem and comply with the transmit power regulations.

Regarding claims 2-3, Olafsson also discloses that a transmit power verification procedure and scheme enables and accurately verifies the transmit power of a signal point constellation set regardless of the computational resolution of the components used in the two modem devices (col.2, line 58 to col.3, line 8). In order to verify the transmit power levels sent from the one modem to another modem, therefore, the transmit power is inherently set by either one of the modem devices (i.e., the analog modem or the digital modem).

Regarding claim 4, Olafsson discloses the PCM modem system adjusting the power level of the analog modem by transmitting mapping parameters including the equivalence classes used in the analog modem and wherein the transmit power level is proportional to the number of equivalence classes (col.7, lines 41-59, and col.8, lines 24-45, i.e., the modem 202 may lower the transmit power limit to ensure that its

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computational precision does not cause an erroneous acceptance or rejection of training points or a signal point constellation set designed by modem 204).

Regarding claim 5, Olafsson discloses wherein the digital modem sets the analog modem transmit power by changing the number of equivalence classes employed (col.7, line 42 to col.8, line 10, i.e., a power calculation element 242 computes the total average transmit power of the signal point constellations in accordance with the designated power formula 240 and in a similar manner as transmit power calculation element 222 (resident at modem 202), also see col.10, line 58 to col.11, line 3)).

Regarding claim 6, Olafsson further discloses wherein the digital modem estimates the transmit power of the analog modem during a startup mode (col.8, lines 11-45).

Regarding claim 7, Olafsson discloses the step of transmitting the difference between the detected power level and the desired power level to the digital modem for use by the digital in changing the number of equivalence classes employed, thus to adjust level of the analog modem transmitter (col.7, lines 41-59, and col.8, lines 24-45)

Regarding claim 8, Olafsson also discloses wherein the adjustment of the transmit power level of the analog modem is such as to maintain the transmit power level within FCC set limits (col.5, lines 23-35, i.e., the transmit power level with a regulatory limit -12 dBm0 FCC limit).

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Regarding claim 9, Olafsson does not explicitly disclose that the adjusted transmit power level at the analog modem optimizes the PCM modem system by minimizing echo power to minimize noise components due to echo cancellation and by minimizing non-linearities and downstream performance degradation. However, Olafsson discloses that the transmit power level is adjusted at regulatory limit, such as the -12 dBm0 FCC (col.8, lines 24-45). Therefore, the adjustment of the transmit power level inherently minimizes the noise signal and also reduces the error signal.

Claims 10-11 are similar to claims 1-3. Therefore, claims 10-11 are rejected under a similar rationale.

Response to Arguments

3. Applicant's arguments filed 10/5/01 have been fully considered but they are not persuasive.

Apllicant asserts that Olafsson does not suggest the step of adjusting the transmit power level of the analog modem in accordance with the difference between the detected transmit power level and a desired transmit power level.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill

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in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Olafsson discloses a use of the transmit power verification (220) for verifying the transmit power level (i.e., if the transmit power level is less higher a desired transmit power level). Therefore, the transmit power level is compared (a permited transmit power level) and calculated by using the transmit power calculation. Therefore, in order to verify the transmit power level, one of ordinary skill in the art would compare the transmit power level with the desired power level in order to adjust the transmit power level sent from one modem to another modem device (see col.2, lines 61-63, col.3, lines 6-30, and a comparator 224) and comply with the transmit power regulations.

4. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Conclusion

5. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks Washington, D.C. 20231 or faxed to:

(703) 308-9051, (for formal communications intended for entry)

or:

(703) 308-6743, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Khai Tran** whose telephone number is **(703) 305-1876**. The examiner can normally be reached on Monday-Thursday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chi Pham**, can be reached on **(703)** 305-4378.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

CHI PHAM

SUPERVISORY PATENT EXAMINER

TECHNOLOGY CENTER 2600 12/5 (8)

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December 3, 2001